*Journal of Traumatic Stress, Vol. 16, No. 1, February 2003, pp. 81–91 (© 2003)*

# Cognitive Trauma Therapy for Battered Women With PTSD: *Preliminary Findings*

**Edward S. Kubany,[1,3] Elizabeth E. Hill,[2] and Julie A. Owens[1]**

This paper describes a treatment–outcome study of Cognitive Trauma Therapy for Battered Women (CTT-BW) with PTSD. Derived from psychological learning principles, CTT-BW emphasizes the role of irrational beliefs and evaluative language in chronic PTSD. CTT-BW includes trauma history exploration, PTSD psychoeducation, stress management, psychoeducation about dysfunctional self-talk and self-monitoring of self-talk, exposure to abuse reminders, Cognitive Therapy for Trauma-Related Guilt (E. S. Kubany & F. P. Manke, 1995), and modules on assertiveness, managing contacts with former partners, self-advocacy strategies, and avoiding revictimization. Thirty-seven ethnically diverse women were assigned to Immediate or Delayed CTT-BW. PTSD remitted in 30 of 32 women who completed CTT-BW. Gains were maintained at 3-month follow-up. CTT-BW was efficacious across ethnic backgrounds. Issues related to disseminability of CTT-BW are discussed.

**KEY WORDS:** battered women; PTSD; depression; self-esteem; therapy; efficacy.

## Introduction

Violence against women by their intimate partners is a problem of major proportions. Nearly one of three American women experiences at least one physical assault by an intimate partner during adulthood (American Psychological Association Task Force on Violence and the Family, 1996). In a random sample of urban women, one of four had been physically assaulted by a male intimate partner (Randall & Haskel, 1995). It has been estimated that between 22 and 35% of women who seek care in emergency rooms are there because of domestic violence (Abbott, Johnson, Koziol-McLain, & Lowenstein, 1995).

[1]Department of Veterans Affairs, National Center for PTSD, Pacific Islands Division and Domestic Violence Consultants, Honolulu, Hawaii.

[2]Tripler Army Medical Center, Honolulu, Hawaii.

[3]To whom correspondence should be addressed at Department of Veterans Affairs, National Center for PTSD, Pacific Island Division, 1132 Bishop Street, Suite 307, Honolulu, Hawaii 96813; e-mail: kubany@hawaii.rr.com or edward.kubany@med.va.gov.

As a traumatic stressor, partner abuse can lead to the development of posttraumatic stress disorder (PTSD)—a syndrome with often debilitating symptoms—including intrusive distressing memories, nightmares, avoidance of trauma reminders, loss of interest in previously enjoyable activities, insomnia, and loss of concentration (American Psychiatric Association, 1994). Rates of PTSD among battered women are much higher than those in the general population. In shelter samples of battered women, PTSD prevalence has ranged from 45 to 84% (see Kubany, Abueg, et al., 1995). In two studies of women in support groups for battered women, 35 and 85% were estimated to have PTSD (Kubany et al., 1996; Kubany, Haynes, et al., 2000). In another study of treatment-seeking battered women, 84% were diagnosed with PTSD on the Clinician-Administered PTSD Scale (CAPS; Kubany, Leisen, Kaplan, & Kelly, 2000).

There has been a recent surge of interest in developing and evaluating treatments for PTSD, and cognitive–behavioral PTSD interventions have shown considerable promise (see Blake & Sonnenberg, 1998; Foa & Meadows, 1997). However, even though battered women



0894-9867/03/0200-0081/1 

may comprise one of the largest traumatized populations in North America, if not the world (Heise, Ellsberg, & Gottemoeller, 1999), there has not been a single, published PTSD treatment–outcome study for battered women.

### *A Model of Posttraumatic Stress That Emphasizes the Role of Irrational Beliefs and Evaluative Language*

Mowrer's two-factor model of escape and avoidance conditioning, involving classical and operant conditioning, has been used by several authors as a conceptual framework for understanding the acquisition and persistence of PTSD (Mowrer, 1960; see Foa, Steketee, & Rothbaum, 1989). Applying Mowrer's model to trauma, formerly neutral or positive events that were associated with trauma come to elicit strong negative emotions and control irrational escape and avoidance behaviors. Although events that symbolize the trauma (e.g., recollections or images of trauma) are not dangerous, they may evoke fear or anxiety. Also, any action that removes recollections from consciousness is reinforced with relief, thereby strengthening avoidance responding and prolonging the emotion-eliciting power of the recollections.

Although two-factor theory may be useful as a partial explanation of PTSD, it has limitations as a complete or comprehensive account. First, two-factor theory does not account for PTSD, which develops following traumatic losses—such as the sudden, unexpected death of a loved one (e.g., Breslau et al., 1998) or symbolic losses related to a shattering of assumptions about concepts such as innocence, trust, fairness, or marital happiness (e.g., Kubany & Watson, 2002; McCann & Pearlman, 1990). A second limitation of two-factor theory is that it fails to account for the role that cognitive factors, such as appraisals, may play in the maintenance of PTSD and related psychopathology.

A number of investigators have emphasized the importance of cognitive variables as factors that contribute to the maintenance or persistence of posttraumatic stress (e.g., Brewin, Dalgleish, & Joseph, 1996; Creamer & Burgess, 1992; Ehlers & Clark, 2000; Foa & Rothbaum, 1998; Kubany & Watson, 2002). When negative appraisals manifest themselves in consciousness as thoughts or speech (e.g., "I'm worthless . . . Dummy me"), such self-talk can function as self-punishment and have deleterious effects on a person's well-being—thereby contributing to the maintenance of posttraumatic stress and depression. In addition, Kubany and Watson (in press-a) suggest that,

> an important reason why memories of trauma do not lose their capacity to evoke emotional pain . . . may be due to higher order language conditioning—whereby words that have acquired the ability to evoke negative affect (e.g., "stupid . . . I never should have . . .") function, in effect, as "unconditioned stimuli" in pairings with images or thoughts of the trauma (Staats, 1972, 1996) . . . Evaluative self-talk narratives which accompany memories of trauma may provide thousands of reconditioning trials that effectively interfere with the natural process of emotional extinction . . . (p. 7)

See Kubany and Watson (2003a) for a more extensive description of this model of posttraumatic stress, which serves as the conceptual basis for the intervention described below.

Cognitive Trauma Therapy is a multicomponent intervention designed as an all-inclusive treatment for PTSD in women—with histories of physical and/or sexual abuse, in particular—which has been specifically tailored to address posttraumatic stress in battered women (Kubany & Watson, 2002). Cognitive Trauma Therapy for Battered Women (CTT-BW) includes several treatment elements from existing treatments for PTSD: (a) psychoeducation about PTSD, (b) stress management (including relaxation training), (c) self-monitoring of maladaptive thoughts and speech, and (d) talking about the trauma and exposure homework.

The unique aspect of CTT-BW is its inclusion of systematized procedures for (a) assessing and correcting dysfunctional beliefs and (b) reducing negative self-talk—related to guilt and shame, in particular. Correcting guilt-related beliefs, which are largely erroneous, is conducted in a highly systematic step-by-step format (Kubany & Manke, 1995). Negatively evaluative thought and speech habits are addressed directly by teaching clients to observe their mental life by means of self-monitoring homework and to inhibit use of negatively evaluative words in speech and thought (Kubany, 1998).

CTT-BW also includes modules for addressing issues faced by many, if not most, women in a male-dominated society in which women are often subordinate to men, in which women's needs are often considered less important than the needs of men, and in which women are often vulnerable to exploitation by men. These modules focus on self-advocacy and empowerment and include (1) self-advocacy strategies, (b) assertive communication skill building, (c) managing unwanted contacts with former partners, and (d) how to identify potential perpetrators and avoid revictimization.

## Method

### *Participants*

Participants included 37 battered women, most of whom were referred by victim services agencies that serve

battered women in Hawaii. Participants ranged in age from 22 to 62 with a mean age of 36.4 ($SD$ = 9.1). Participants' levels of education ranged from 11th grade to a doctorate, with a mean of 13.6 years. Participants' ethnic backgrounds were diverse, including White ($n$ = 18), Asian ($n$ = 10; Japanese, Chinese, Filipino, and Indonesian), Pacific Islander ($n$ = 6; Native Hawaiian and Samoan), and "other" ethnicities ($n$ = 3; Black and Puerto Rican). All participants had been physically and/or emotionally abused by an intimate or a romantic partner. Seventy-three percent of the sample reported having been physically hurt by an intimate partner more than five times, and 51% ($n$ = 19) had been physically hurt by more than one intimate partner. Most participants reported multiple histories of traumatization. Participants reported experiencing intense fear, helplessness, or horror in response to a mean 8.3 types of events listed on the Traumatic Life Events Questionnaire ($SD$ = 3.2). The types and percentage of traumatic events reported by participants are presented in Table 1.

Women qualified for participation if they (a) had been out of an abusive relationship for at least 30 days with no intention of reconciling, (b) had not been physically or sexually abused or stalked by *anyone* for at least 30 days, (c) met diagnostic criteria for partner-abuse-related PTSD, (d) obtained a score on the Global Guilt Scale of the Trauma-Related Guilt Inventory reflecting at least moderate abuse-related guilt, (e) were not currently abusing alcohol or drugs, and (f) did not have schizophrenia or bipolar disorder. While participating in the study, women were not required to discontinue other services (e.g., other therapy, support groups) or prescription medication.

### *Measures*

#### *Clinician-Administered PTSD Scale*

The CAPS (Blake et al., 1990) is a structured interview for assessing the symptoms of PTSD according to criteria in *DSM-IV*. The CAPS was found to have very good diagnostic efficiency when judged against the Structured Clinical Interview for *DSM-III-R* (Weathers et al., 1992). In the treatment–outcome study described below, CAPSs were administered by three doctoral candidates in clinical psychology who were trained to administer the CAPS by Edward Kubany. The assessors were blind to participants' condition assignments.

#### *Traumatic Life Events Questionnaire (TLEQ)*

The TLEQ (Kubany, Haynes, et al., 2000) assesses exposure to a broad spectrum of 21 potentially traumatic events. In separate studies with college students, Vietnam veterans, battered women, and substance-abusing men and women, most items possessed adequate-to-excellent temporal stability.

#### *The Distressing Event Questionnaire (DEQ)*

The DEQ (Kubany, Leisen, Kaplan, & Kelly, 2000) assesses PTSD according to criteria provided in

**Table 1.** Types of Trauma Exposure in Battered Women ($N$ = 37)

| TLEQ event | No. and % of those who reported exposure to event | No. and % of those who were traumatized by event[a] |
|---|---|---|
| Natural disaster | (30) 81% | (18) 49% |
| Motor vehicle accident | (18) 49% | (12) 32% |
| "Other" kind of accident | (11) 30% | (9) 24% |
| Combat or warfare | (1) 3% | (0) 0% |
| Sudden death friend/loved one | (29) 78% | (21) 57% |
| Life-threatening/disabling event to loved one | (18) 49% | (13) 35% |
| Life-threatening illness | (10) 27% | (6) 16% |
| Robbery/weapon used | (5) 14% | (3) 8% |
| Assaulted by acquaintance/stranger | (13) 35% | (11) 30% |
| Witnessed severe assault to acquaintance/stranger | (17) 46% | (12) 32% |
| Threatened with death/serious harm | (34) 92% | (29) 78% |
| Growing up: witnessed family violence | (18) 49% | (17) 46% |
| Growing up: physically punished | (23) 62% | (18) 49% |
| Physically hurt by an intimate partner | (37) 100% | (34) 92% |
| Before 13: sexual contact—someone at least 5 years older | (14) 38% | (12) 32% |
| Before 13: unwanted sexual contact—someone close in age | (12) 32% | (8) 22% |
| As a teen: unwanted sexual contact | (17) 46% | (14) 38% |
| As an adult: unwanted sexual contact | (21) 57% | (18) 49% |
| Stalked | (28) 76% | (26) 70% |
| Miscarriage | (12) 32% | (10) 27% |
| Abortion | (24) 65% | (15) 41% |

[a]Events were considered traumatic if exposure was accompanied by intense fear, helplessness, or horror.

*DSM-IV*. In four separate samples of physically and/or sexually abused women, the DEQ exhibited excellent discriminative validity when judged against structured interview assessment of PTSD. The DEQ was highly correlated with other measures of PTSD and exhibited strong convergent validity across ethnic groups.

*Beck Depression Inventory*

The Beck Depression Inventory is a widely used measure of depression, with well-established reliability and validity (Beck, Steer, & Garbin, 1988).

*Rosenberg Self Esteem Scale*

The Rosenberg Self Esteem Scale (Rosenberg, 1965) is a 10-item scale designed to assess general feelings of self-acceptance and self-respect. The scale has been shown to possess good reliability and adequate construct, convergent, and discriminant validity (Blascovich & Tomaka, 1991).

*Trauma-Related Guilt Inventory (TRGI)*

The TRGI (Kubany et al., 1996) assesses guilt and cognitive and emotional aspects of guilt associated with specific traumatic events. The TRGI includes a Global Guilt Scale, a Distress Scale, a Guilt Cognitions Scale, and three guilt-cognition subscales. TRGI scales and subscales were significantly correlated with measures of PTSD, depression, negative self-esteem, and guilt and shame proneness in samples of battered women and combat veterans.

*Sources of Trauma-Related Guilt Survey – Partner Abuse Version (STRGS-PA)*

The STRGS-PA (Kubany, Owens, & Leigh, 1998) assesses 95 potential sources of partner-abuse-related guilt and also includes a four-item Global Guilt Index In a sample of treatment-seeking battered women, the Global Guilt Index was significantly correlated with PTSD, depression, and negative self-esteem.

*Personal Feelings Questionnaire (PFQ)*

The PFQ (Harder & Lewis, 1986) assesses proneness to experience guilt and shame. Both the Guilt and Shame scales of the PFQ possess adequate reliability, concurrent validity with other measures of guilt and shame, and construct validity (Harder & Zalma, 1990).

*Client Satisfaction Questionnaire (CSQ-8)*

The CSQ-8 (Attkisson & Zwick, 1982; Larsen, Attkisson, Hargreaves, & Nyguen, 1979) assesses post-service client satisfaction. The CSQ-8 has adequate psychometric properties and has been favorably reviewed by several independent sources (see Ogles, Lambert, & Masters, 1996).

***Procedure***

After telephone-screening of participant eligibility, consecutive pairs of women were scheduled for individual structured interview and questionnaire assessments. After these assessments, the women were randomly assigned to either an Immediate or a Delayed CTT-BW condition. Two weeks after completing CTT-BW, women in the Immediate CTT-BW condition received their posttherapy assessment. At the same time (about 6 weeks after their initial assessment), women in the Delayed CTT-BW condition received a second pretherapy assessment and then received CTT-BW. Two weeks after completing delayed CTT-BW, a posttherapy assessment was conducted with these women. Follow-up assessments were conducted 3 months after therapy. Edward Kubany served as therapist for all 37 participants.

*Treatment*

CTT-BW was conducted in an individual-therapy format designed for implementation in eight to eleven 1.5-h sessions for most clients. CTT-BW was conducted following a 55-page preliminary procedural manual. Session outlines are described below.

The purpose of Session 1 is to establish rapport, obtain a partner abuse history, inquire about other significant traumatic experiences (on the basis of clients' responses on the TLEQ), and provide clients an overview of our theoretical orientation and the topics to be covered.

During Sessions 2–4, we (a) complete the trauma history exploration if it was not completed during Session 1, (b) provide psychoeducation about PTSD and the rationale for exposure homework, (c) assign exposure homework (e.g., to look at pictures of and visualize the abusive partner; watch movies on domestic violence), (d) provide psychoeducation on learned helplessness (Peterson & Seligman, 1983) and the importance of a solution-oriented attitude—as opposed to an attitude that focuses on reasons why problems cannot be solved, (e) provide psychoeducation on negative self-talk and assign homework to monitor self-talk, (f) provide psychoeducation on stress management and training in progressive muscle relaxation.

Two to four sessions are usually devoted Cognitive Therapy for Trauma-Related Guilt (CT-TRG; Kubany, 1998; Kubany & Manke, 1995; see Kubany & Watson, 2002, 2003b). CT-TRG has three phases: (a) guilt assessment, (b) guilt incident debriefings, and (c) cognitive therapy proper, which involves "exercises in logic" for correcting thinking errors that lead to distortions in guilt-related beliefs (Kubany, 1997a). The thinking errors are addressed in the context of four semistructured exercises in which clients are taught to distinguish what they knew "then" from what they know "now" and for reappraising perceptions of justification, responsibility, and wrongdoing (in light of beliefs held and knowledge possessed when the trauma occurred). With each issue, guilt is broken into its four cognitive components, which are analyzed one at a time. CT-TRG includes considerable psychoeducation, particularly in its early stages. In later stages, therapist and client are actively involved in assessing the client's beliefs and considering alternative explanations.

CTT-BW modules covered in the latter sessions focus on self-advocacy and empowerment and include (a) training in how to differentiate between assertive and aggressive speech and how to be assertive in response to verbal aggression, (b) how to identify potential perpetrators, (c) how to respond to telephone and face-to-face harassment by former partners, and (d) psychoeducation on self-advocacy strategies in five areas of functioning (e.g., getting personal needs satisfied as a top priority; decision making that promotes self-interests; standing up for one's rights). CTT-BW procedures are described in greater detail by Kubany and Watson (2002).

## Results

Eighteen of 19 women assigned to the Immediate CTT-BW condition completed CTT-BW. Fourteen of 18 women assigned to the Delayed CTT-BW condition completed CTT-BW. Overall, 86% of the 37 women who started CTT-BW ($n = 32$) completed treatment.

Comparisons, using ANOVAs or chi-square tests, were made between the initial scores of participants in the Immediate CTT-BW and the Delayed CTT-BW conditions on (a) all the major outcome variables, (b) age, (c) education, (d) ethnicity (White/ethnic minority), (e) medication use (yes/no), (f) concomitant other therapy (yes/no), and (g) number of types of traumatic events reported. There were no significant differences on any of the comparisons, suggesting that random assignment was effective in canceling out error related to relevant measured variables.

The means and relevant percentages on all dimensions compared (except for ethnicity, medication use, concomitant other therapy, and trauma history) for all participants who completed CTT-BW and the small group of five women who started, but did not complete CTT-BW, are shown in Table 2. Visual comparisons of the numbers for therapy completers and noncompleters do not reveal any pattern of differences between therapy completers and noncompleters.

**Table 2.** Initial Status of Participants Who Completed CTT-BW ($n = 32$) and Who Did Not Complete CTT-BW ($n = 5$) on All the Major Outcome Measures, Demographic Variables, and Trauma Exposure

| Measure or variable | Completers | Noncompleters |
|---|---|---|
| Age | 36.8 (9.5) | 33.4 (6.3) |
| Education | 13.6 (2.0) | 13.8 (1.8) |
| Types of events endorsed on the Traumatic Life Events Questionnaire—which also evoked intense fear, helplessness, or horror | 8.2 (3.1) | 8.6 (4.2) |
| Clinician-Administered PTSD Scale (CAPS) | 80.1 (21.0) | 80.2 (22.8) |
| Distressing Event Questionnaire | 56.1 (13.3) | 57.0 (7.8) |
| Beck Depression Inventory | 28.5 (10.6) | 25.8 (10.1) |
| Trauma-Related Guilt Inventory | | |
| Global guilt | 2.7 (0.9) | 2.5 (0.6) |
| Distress | 3.2 (0.6) | 3.3 (0.6) |
| Guilt cognitions | 2.2 (0.8) | 2.6 (0.8) |
| Hindsight bias/responsibility | 2.1 (1.0) | 2.7 (1.0) |
| Wrongdoing | 2.4 (0.8) | 3.0 (1.0) |
| Justification | 2.4 (1.0) | 2.1 (1.3) |
| Sources of Trauma-Related Guilt Survey | | |
| Overall guilt | 2.5 (0.9) | 2.6 (0.8) |
| Sum of guilt sources | 148 (65.7) | 169 (76.9) |
| Personal Feelings Questionnaire | | |
| Guilt proneness | 7.4 (2.2) | 8.2 (2.8) |
| Shame proneness | 7.9 (3.1) | 10.4 (3.2) |

*Note.* Values represent mean (standard deviation).

Forty percent of the five noncompleters ($n = 2$) were Caucasian compared to 50% of women who completed CTT-BW. Regarding prescription medication use, 60% of noncompleters ($n = 3$) were taking prescription medication compared to 47% of women who completed CTT-BW. Regarding concurrent other therapy, 20% of noncompleters ($n = 1$) were receiving other therapy compared to 34% of women who completed CTT-BW. On these dimensions, there is no striking pattern of differences between individuals who did and did not complete CTT-BW.

### *Effects of Immediate CTT-BW and Comparisons With the Delayed CTT-BW Condition*

The 18 women who completed Immediate CTT-BW received between 7 and 10 therapy sessions, with a mean of 8.5 sessions and a mode of 8 sessions ($n = 10$).

Each of the outcome variables was subjected to a two-way ANOVA, with the pretherapy and posttherapy or

**Table 3.** Outcome Data for Initial and Replication Sample

| Instrument | Assessments | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Immediate therapy group ($n$ = 18) | | | | Delayed therapy group ($n$ = 14) | | | | |
| | Pretherapy | Posttherapy[a] | Effect size[b] | 3-month follow-up[c] | Pretherapy 1 | Pretherapy 2[d] | Posttherapy[e] | Effect size[f] | 3-month follow-up[b] |
| Clinician-Administered PTSD Scale | 80.9 (20.7) | 10.1 (19.3)* | 2.6 | 7.9 (9.3) | 79.1 (22.1) | 76.1 (25.2) | 11.6 (13.6)* | 3.3 | 12.4 (13.8) |
| Distressing Event Questionnaire | 58.1 (12.2) | 5.7 (7.2)* | 3.4 | 4.4 (3.8) | 53.8 (14.5) | 54.3 (14.3) | 8.5 (6.5)* | 3.6 | 7.5 (5.2) |
| Beck Depression Inventory | 27.7 (10.6) | 3.6 (4.9)* | 3.1 | 5.2 (7.4) | 29.6 (10.8) | 30.2 (8.5) | 5.9 (5.9)* | 2.1 | 4.2 (4.0) |
| Trauma-Related Guilt Inventory | | | | | | | | | |
| Global guilt | 2.7 (0.8) | 0.5 (0.5)* | 2.9 | 0.5 (0.9) | 2.7 (1.0) | 2.8 (0.8) | 0.3 (0.3)* | 2.8 | 0.3 (0.4) |
| Distress | 3.2 (0.7) | 1.2 (0.8)* | 4.4 | 1.2 (0.9) | 3.2 (0.6) | 3.4 (0.5) | 1.4 (0.3)* | 2.9 | 1.1 (0.7) |
| Guilt cognitions | 2.1 (0.8) | 0.4 (0.4)* | 3.3 | 0.3 (0.3) | 2.3 (0.7) | 2.4 (0.6) | 0.3 (0.3)* | 2.5 | 0.3 (0.3) |
| Hindsight bias/responsibility | 2.0 (1.0) | 0.2 (0.3)* | 2.6 | 0.1 (0.3) | 2.3 (1.0) | 2.5 (0.9) | 0.1 (0.3)* | 2.0 | 0.2 (0.4) |
| Wrongdoing | 2.4 (1.0) | 0.6 (0.6)* | 3.0 | 0.4 (0.6) | 2.5 (0.6) | 2.7 (0.7) | 0.3 (0.4)* | 2.5 | 0.3 (0.4) |
| Justification | 2.4 (1.0) | 0.9 (1.0)* | 1.4 | 0.6 (0.9) | 2.5 (1.0) | 2.2 (0.9) | 0.7 (0.8)* | 1.7 | 0.6 (0.8) |
| Sources of Trauma-Related Guilt Survey | | | | | | | | | |
| Overall guilt | 2.7 (0.8) | 0.3 (0.4)* | 2.2 | 1.3 (2.1) | 2.3 (1.1) | 2.3 (0.9) | 0.3 (0.4)* | 2.4 | 0.6 (0.6) |
| Sum of guilt sources | 151.9 (68.2) | 16.4 (30.7)* | 1.9 | 24.9 (6.5) | 143.9 (64.9) | 146.2 (68.7) | 16.8 (19.2)* | 2.0 | 12.8 (19.3) |
| Personal Feelings Questionnaire | | | | | | | | | |
| Guilt proneness | 7.3 (2.1) | 1.2 (1.8)* | 3.6 | 1.3 (1.6) | 7.6 (2.4) | 8.3 (2.0) | 1.5 (1.5)* | 2.7 | 1.5 (1.5) |
| Shame proneness | 7.9 (3.5) | 1.6 (2.6)* | 2.3 | 2.0 (2.1) | 7.9 (2.6) | 7.7 (2.6) | 2.6 (1.9)* | 1.7 | 2.5 (2.1) |
| Rosenberg Self-Esteem Scale[g] | 13.6 (5.2) | 26.7 (4.4)* | 2.9 | 24.9 (6.5) | 12.7 (6.7) | 12.5 (4.9) | 24.4 (5.2)* | 1.9 | 25.7 (3.7) |
| Client Satisfaction Scale | | 29.8 (4.3) | | 30.6 (2.6) | | | 30.7 (2.2) | | |

*Note.* Values in parentheses are standard deviations.
[a] Significance tests based on comparisons between pretherapy and posttherapy scores.
[b] Between group calculation.
[c] All comparisons between posttherapy scores and 3-month follow-up scores were *ns*. Fourteen participants in the Immediate CTT-BW condition and 11 participants in the Delayed CTT-BW-BW condition received 3-month follow-up assessments.
[d] All comparisons between Pretherapy 1 scores and Pretherapy 2 scores were *ns*.
[e] Significance tests based on comparisons between Pretherapy 2 scores and Posttherapy scores.
[f] Within group calculation (Hedge's g).
[g] Rosenberg scores were ordered to range from 0 to 30 (highest self-esteem).
* $p < .05$ (Bonferroni adjusted).

Pretherapy Assessment 2 scores serving as the repeated measures. This strategy was adopted in lieu of MANOVA because of a prohibitively large number of measures relative to sample size. Table 3 presents the means and standard deviations of Immediate-CTT-BW participants' scores on all the dependent measures at all assessment points and statistical significance of all comparisons. Inspection of Table 3 shows that the pattern of results was exactly the same for every single outcome variable. First, there were no significant differences between the Immediate and Delayed CTT-BW conditions on the initial assessments. Second, there were no significant changes in scores among participants in the Delayed CTT-BW condition between the first and second pretherapy assessments. Third, there were highly significant changes between pretherapy and posttherapy scores among participants in the Immediate CTT-BW condition. We will use results on the CAPS as an illustrative example, First, there were no significant differences in CAPS scores between participants in the Immediate and Delayed CTT-BW conditions at the initial pretherapy assessment, $F(1, 30) < 1$. Second, CAPS scores of participants in the Delayed CTT-BW condition were not significantly different between the first and second pretherapy assessments, $F(1, 13) < 1$. Third, there were highly significant reductions in PTSD symptomatology between the initial and posttherapy assessments among participants in the Immediate CTT-BW condition—reductions that were 88% in magnitude, $F(1, 17) = 111.67$, $p < .05$.

All 14 participants in the Delayed CTT-BW condition met diagnostic criteria for PTSD on the CAPS at both the first and second pretherapy assessments. Seventeen of 18 women in the Immediate CTT-BW condition (94%) no longer met diagnostic criteria for PTSD at the posttherapy assessment.

Seventy-eight percent of participants in the Immediate CTT-BW condition ($n = 14$) obtained pretherapy scores on the Beck Depression Inventory in the moderate-to-severe or severe range (>19), and only 1 participant (6%) obtained a Beck score in the normal range (<10). At the posttherapy assessment, 94% of these participants ($n = 17$) obtained Beck scores in the normal range. These

pre–posttherapy changes meet stringent criteria for assessing clinically meaningful changes on the Beck Depression Inventory (Ogles et al., 1996, pp. 84–85).

Scores on the CSQ-8 can range from 0 to 32 (highest satisfaction). At the posttherapy assessment, participants in the Immediate CTT-BW condition obtained a mean CSQ-8 score of 29.8 ($SD = 4.3$).

To quantify the clinical impact of the intervention, effect sizes were determined for each dependent measure and each group at the Time 2 assessment. This was the point at which the immediate therapy group had completed treatment and the delayed group was about to begin. Effect sizes were calculated as the difference between group means divided by the standard deviation for the delayed therapy condition. The resulting metric expresses the group difference in terms of the untreated participants' standard deviation.

As an interpretive example, means on the CAPS for the treated and untreated groups at the second assessment were 76.1 and 10.1, respectively. The standard deviation for the untreated group was 25.2. The resulting effect size of 2.6 indicates that the mean score for the treated cases is more than 2.5 standard deviations below that of the wait-list/delayed group. Stated differently, a $z$ score of 2.6 corresponds to the 99th+ percentile of the untreated group's distribution. Hence, there was virtually no overlap between the data of the Immediate and Delayed CTT-BW groups. For example, 17 of 18 participants in the Immediate CTT-BW group had lower CAPS scores at the posttherapy assessment than did the delayed therapy participant with the *lowest* CAPS score at the second pretherapy assessment ($\leq$24 vs. 36.5).

The effect sizes for the major outcome measures (excluding the TRGI subscales) ranged from 1.9 to 4.4. The mean effect size was 2.4, which corresponds to a mean percentile of 99.

### *Replication: Assessment of Treatment Outcomes After Delayed CTT-BW*

The 14 women who competed Delayed CTT-BW received between 7 and 13 sessions, with a mean of 8.8 sessions and a mode of 8 sessions ($n = 6$). (In a small number of cases, more than 11 sessions were needed to complete the entire protocol—because of individual differences in client engagement and/or variation in the number of traumas or guilt issues that needed to be addressed.) Table 3 presents the means and standard deviations of Delayed CTT-BW participants' scores on all the dependent measures at all assessment points and the statistical significance of all comparisons.

Each of the outcome variables was subjected to a one-way ANOVA, with Pretherapy Assessment 2 scores and posttherapy scores serving as the repeated measures. As shown in Table 3, there were large and statistically significant changes between Pretherapy 2 and posttherapy scores on every outcome measure. Thirteen of 14 women in the Delayed CTT-BW condition (93%) no longer met diagnostic criteria for PTSD at the posttherapy assessment.

Ninety-three percent of the 14 participants in the Delayed CTT-BW condition ($n = 13$) obtained pretherapy scores on the Beck Depression Inventory in the moderate-to-severe or severe range, and only 1 participant (7%) obtained a Beck score in the normal range. At the posttreatment assessment, 79% of these participants ($n = 11$) obtained Beck scores in the normal range.

At the posttherapy assessment, participants in the Delayed CTT-BW condition obtained a mean score of 30.7 ($SD = 2.2$) on the CSQ-8.

For Delayed CTT-BW cases, effect sizes were computed by subtracting their posttreatment mean from the pretreatment mean of all participants combined and dividing the result by the baseline standard deviation for all participants combined. The resulting quantity, known as "Hedges' g," represents the difference between pre- and posttreatment expressed in standard deviation units (Foa, Keane, & Friedman, 2000). To illustrate, consider the treatment effect for the CAPS for the delayed therapy participants. The effect size estimate of 3.3 indicates that the Delayed CTT-BW group's mean at posttreatment was 3.3 standard deviations below the mean for all untreated participants at baseline. For the Delayed CTT-BW group, mean effect sizes for the major outcome measures ranged from 1.7 to 3.8, as shown in Table 3.

### *3-Month Follow-Up Assessments*

Three-month follow-up data was obtained for 78% of the women who completed Immediate CTT-BW ($n = 14$) and for 79% of the women who completed Delayed CTT-BW ($n = 11$). Results presented in Table 3 show that participants' improvements at the post-CTT-BW assessments were maintained at the 3-month follow-up assessments—on every outcome measure, for women in both conditions. Repeated measure $F$ tests comparing post-CTT-BW and follow-up scores were all nonsignificant.

### *Intent-to-Treat Analyses*

One of 19 women who started Immediate CTT-BW did not complete treatment, and 4 of 18 women who started

**Table 4.** Outcome Data for Initial and Replication Samples Using Intent-to-Treat Analyses

| Instrument | Assessments | | | | | | |
|---|---|---|---|---|---|---|---|
| | Immediate therapy group ($n$ = 19) | | | Delayed therapy group ($n$ = 18) | | | |
| | Pretherapy | Posttherapy[a] | Effect size[b] | Pretherapy 1 | Pretherapy 2[c] | Posttherapy[d] | Effect size[e] |
| Clinician-Administered PTSD Scale | 82.0 (20.7) | 14.9 (28.1)* | 2.3 | 79.1 (22.1) | 72.4 (24.6) | 22.2 (25.1)* | 2.8 |
| Distressing Event Questionnaire | 58.2 (11.9) | 8.7 (14.6)* | 3.3 | 54.3 (13.3) | 53.4 (13.6) | 17.8 (19.5)* | 3.1 |
| Beck Depression Inventory | 27.5 (10.4) | 4.6 (6.7)* | 2.5 | 28.8 (10.7) | 28.2 (9.6) | 9.3 (9.6)* | 1.8 |
| Trauma-Related Guilt Inventory | | | | | | | |
| Global guilt | 2.7 (0.8) | 0.6 (0.7)* | 3.1 | 2.7 (0.9) | 2.8 (0.7) | 0.9 (1.1)* | 2.2 |
| Distress | 3.2 (0.6) | 1.3 (0.9)* | 4.2 | 3.2 (0.6) | 3.4 (0.5) | 1.8 (1.2)* | 2.3 |
| Guilt cognitions | 2.1 (0.8) | 0.5 (0.5)* | 3.2 | 2.4 (0.7) | 2.4 (0.6) | 0.7 (0.3)* | 2.0 |
| Hindsight bias/responsibility | 2.0 (1.0) | 0.3 (0.7)* | 2.6 | 2.4 (1.0) | 2.4 (0.8) | 0.6 (0.9)* | 1.6 |
| Wrongdoing | 2.4 (1.0) | 0.7 (0.8)* | 2.9 | 2.6 (0.7) | 2.7 (0.7) | 0.9 (1.1)* | 1.8 |
| Justification | 2.3 (1.0) | 0.9 (1.1)* | 1.7 | 2.4 (1.1) | 2.1 (0.7) | 0.9 (0.9)* | 1.4 |
| Sources of Trauma-Related Guilt Survey | | | | | | | |
| Overall guilt | 2.7 (0.8) | 0.4 (0.6)* | 2.1 | 2.4 (1.0) | 2.3 (0.9) | 0.7 (1.0)* | 2.1 |
| Sum of guilt sources | 148.8 (67.5) | 16.4 (30.7)* | 2.1 | 153.7 (67.5) | 151.6 (63.3) | 50.9 (70.0)* | 1.5 |
| Personal Feelings Questionnaire | | | | | | | |
| Guilt proneness | 7.6 (2.3) | 1.7 (3.0)* | 2.9 | 7.5 (2.3) | 8.1 (2.2) | 2.8 (3.0)* | 2.1 |
| Shame proneness | 8.3 (3.7) | 2.3 (4.0)* | 2.2 | 8.2 (2.5) | 7.7 (2.5) | 3.8 (2.9)* | 1.4 |
| Rosenberg Self-Esteem Scale | 13.8 (5.1) | 26.2 (4.7)* | 2.8 | 13.0 (6.1) | 12.9 (4.7) | 22.2 (6.5)* | 1.6 |

[a] Significance tests based on comparisons between pretherapy and posttherapy scores.
[b] Between group calculation.
[c] All comparisons between Pretherapy 1 scores and Pretherapy 2 scores were *ns*.
[d] Significance tests based on comparisons between Pretherapy 2 scores and Posttherapy scores.
[e] Within group calculation (Hedge's g).
* $p < .05$ (Bonferroni adjusted).

Delayed CTT-BW did not complete treatment. To examine the effects of attrition on outcomes, considering noncompleters as treatment failures, we conducted intent-to-treat analyses on the data by evaluating outcomes for all participants, using pretreatment data scores for women who started but did not complete treatment (Kazdin, 1998). Results presented in Table 4 show that, for both the Immediate and Delayed CTT-BW groups, there were large, statistically significant improvements on all treatment–outcome variables, even when pretherapy data for noncompleters were included in the analyses.

## Discussion

This study represents the first controlled PTSD treatment outcome study conducted with battered women, who as noted earlier, comprise one of the largest traumatized populations in North America. Women were randomly assigned to receive immediate or delayed CTT-BW, and women in the Delayed CTT-BW condition did not improve over the 6 weeks between their first and second pretherapy assessments. However, 94% of women who completed CTT-BW no longer met diagnostic criteria for PTSD at posttherapy assessment, with corresponding reductions in depression, guilt, and shame, and significant increases in self-esteem. In addition, CTT-BW was efficacious with women of diverse ethnic backgrounds (all 16 ethnic minority women who completed CTT-BW were PTSD-free at the posttherapy assessment), and therapeutic improvements were maintained at 3-month follow-up.

After completing CTT-BW, 30 of 32 women no longer met the *DSM-IV* PTSD numbing/avoidance criterion (Criterion C), and none of the 25 women assessed at the 3-month follow-up met Criterion C. These findings are significant because PTSD treatment programs proven to be efficacious have been most successful in reducing intrusive symptoms but less successful in ameliorating numbing and avoidance symptoms (e.g., Blake & Sonnenberg, 1998; Solomon, Gerrity, Muff, 1992).

The finding that CTT-BW was efficacious across ethnic backgrounds merits comment. This finding suggests that CTT-BW will not have to be ethnoculturally adapted to meet the needs of ethnic minority women, at least in Hawaii. Part of the reason for the efficacy of CTT-BW, independent of ethnicity, may be related to observations that domestic violence issues (e.g., related to male dominance and the status of women relative to men) and PTSD are universal problems, with similar manifestations across cultural contexts (cf. Foa, Zinbarg, & Rothbaum, 1992; Kubany, Bauer, Pangilinan, Muraoka, & Enriquez, 1995). CTT-BW has multiple elements focusing on PTSD and empowerment issues that may render it flexibly applicable across ethnic groups. Another reason why

CTT-BW was equally efficacious with White and ethnic minority women may be attributable to the individual therapy format employed in this research. A group therapy format may have been more likely to heighten the importance of ethnocultural factors, related—for example—to shame and willingness to self-disclose (e.g., Benedict, 1946; Lewis, 1971). The one-on-one context in which therapy occurred may have been more conducive than a group context would have been, to the development of a close therapist–client relationship and to perceptions that therapy was a "safe" place to address highly personal issues, which were often shrouded in guilt and shame.

None of the women who participated in this study were currently involved in an abusive relationship, and none had not been threatened, stalked, or physically hurt by anyone for a minimum of 30 days prior to enrolling in the study. Thus, safety issues, which are a central theme in support groups for battered women (many of whom are still in abusive relationships or ambivalent about whether to reconcile), are not a central issue in CTT-BW (unless clients encounter a potentially dangerous situation in the course of therapy). With that said, many of our clients had at least occasional, often stressful contacts with former abusive partners—for a variety of reasons, such as shared visitation, custody disputes, violations of restraining orders, telephone harassment, and chance encounters. To address problems related to contacts with former partners, modules on assertiveness, interacting with former abusers, and exposure to *abuser* reminders (e.g., looking at pictures of former abusers)—not just reminders of the *abuse* itself—may be important to include in treatment programs for battered women.

In a recently completed second study to examine the efficacy of CTT-BW (Kubany et al., 2003), Edward Kubany trained six other therapists in how to conduct CTT-BW—relying on intensive mentoring and guided by the preliminary treatment manual. Pre–postassessments for the first 28 women treated by these six therapists show that they are achieving outcomes relatively comparable to those achieved by Kubany in this study (Owens, 2000). For example, 82% of 28 women ($n = 23$) who completed CTT-BW with the six therapists no longer met diagnostic criteria for PTSD at the posttherapy assessment—with mean decreases ranging from 60 to 72% in PTSD symptomatology, depression, guilt, shame, and negative self-esteem.

The preliminary procedural manual has recently been expanded as CTT-BW procedures have become better delineated, on the basis of experiences with an increasing number of clients. The final procedural manual and related materials will be made available to interested clinicians and investigators interested in replicating CTT-BW and independently evaluating its efficacy.

Limitations of the present research need to be acknowledged. The generalizability of the findings are potentially limited by the fact that all the therapy was conducted by a single therapist, following a preliminary treatment manual. These facts may limit the transportability of CTT-BW and its replicability by independent teams of PTSD treatment researchers at the present time. Generalizability of the findings are also limited to the subset of battered women who have been out of abusive relationships for at least 30 days, with no intention of reconciliation. CTT-BW would have to be adapted somewhat for women who are still in abusive relationships or are considering reconciliation. For example, we believe that greater emphasis would need to be placed on decision making (related to whether to stay or reconcile) and issues related to safety. Finally, although treatment outcomes were robust, the sample size was relatively modest.

One reviewer expressed concern about the possible effects of other therapy and medication use on treatment outcomes. Five women in the Immediate CTT-BW group and 7 women in the Delayed CTT-BW group were receiving other therapy, and 10 women in the Immediate CTT-BW group and 7 women in the Delayed CTT-BW group were taking prescription medication. The proportion of women in the two groups receiving other therapy and taking medication was not significantly different—suggesting that any possible effects due to other therapy and medication use were canceled out. In addition, when we analyzed treatment outcomes comparing women receiving and not receiving other therapy and women taking and not taking medication, treatment outcomes tended to be nonsignificantly better for women who were *not* in other therapy and who were *not* taking medication than it was for women who were also receiving other therapy or were on medication. It is also significant that several of the women in the Delayed Therapy condition were in therapy and/or on medication while waiting to receive CTT-BW, but the scores of the women in this group did not improve significantly on any of the treatment–outcome measures during the 6 weeks between the first and second pre-CTT-BW assessments.

Treatment compliance in general and homework compliance in particular may be important to discuss. First, 86% of the women who started CTT-BW (32 of 37) completed the program, and this outcome was associated with very high ratings of client satisfaction with the program. Client satisfaction with treatment may have contributed to participants' willingness or motivation to complete the program. In addition, most clients performed their homework consistently. We attribute this observation

at least in part to the considerable time spent explaining the therapy rationale and the critical importance of doing the homework. First, the importance of homework compliance was emphasized in the first session. Second, much of the psychoeducation in the different modules was directed at getting clients to "buy into" the treatment model and heighten client motivation to do the homework. For example, extensive PTSD education was directed at educating clients to believe that exposure to anxiety-evoking, but nondangerous, reminders of the abuse and abuser would result in alleviation of their PTSD symptomatology. Similarly, extensive psychoeducation as to why negative self-talk is not in a person's best interests was directed at increasing clients' motivation to "give themselves the same respect they would like to get from others" and to increase clients' resolve to break negative self-talk habits.

Cognitive Trauma Therapy rests on assumptions that negatively evaluative language and survivors' distorted meaning of their roles in trauma underlie the chronicity or persistence of posttraumatic stress and depression. Notably, reductions in PTSD and depression were accompanied by highly significant reductions in guilt-related beliefs. As an example, on the seven-item Hindsight Bias/Responsibility subscale of the Trauma-Related Guilt Inventory, the *mean* posttherapy score of the women who completed CTT-BW was 0.14. To obtain a score of 0.14, a respondent must answer "not at all true" to six items (e.g., "I should have known better") and "slightly true" to one item. If CTT-BW proves ultimately to be as efficacious as or more efficacious than existing empirically supported treatments for PTSD, it will then be important to conduct research so as to assess the extent to which guilt cognitions and negative self-talk may contribute causally to posttraumatic stress and also to conduct dismantling studies to determine which treatment components in CTT-BW have the most beneficial effects and which ones may have incremental effects.

## Acknowledgments

This study was support by Grant N980207 from the TriService Nursing Research Group, Department of Defense. The study is also based upon work supported in part by the Office of Research and Development, Department of Veterans Affairs, Honolulu, Hawaii. The opinions contained in this paper are the views of the authors and are not to be construed as official or reflecting the views of the Department of the Army, Department of Defense, or the U.S. Government. We thank Stephen N. Haynes and Tyler Ralston for critical reviews of earlier versions of the paper and also thank Brenda Edmonds, Gail Tice, and Noela Yamamoto for conducting the treatment–outcome assessments.

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